

bank of mangroves,—the atol having, as it were, a double reef, the inner covered with trees, the outer broken here and there with a small island. Looking eastward, I noticed a clear light in the sky, and calling Sam's attention to it, he said it was the reflection of the "white water" of Lighthouse Reef. This appearance arises from the white reflection cast by the breakers and the sandy shallows adjoining. On reaching Grassy Cay, Lesser Terns (*Sterna antillarum*) rose in a cloud as the anchor dropped. Our visit was well timed, as above a hundred pairs had assembled to lay. Numbers of nests were already occupied, each containing one, two, or three eggs; they were simply depressions in the sand scratched out by the bird. A few Roseate Terns (*Sterna paradisea*) also frequented the island, as well as the White Ibis (*Eudocimus albus*) and a Ring-Plover (*Ægialitis wilsonianus*), of which I found two nests. On an adjoining Cay were old nests of the large White Egret (*Herodias egretta*); and skulking amongst the mangroves I saw a "Boat-bill" (*Canceroma cochlearia*). We also came upon some nests of the Ibis in the mangroves, but no eggs. One more day took the schooner through the lagoons of Turneff, across the channel to English Cay, and so back to Belize, bringing one of the pleasantest fortnights I ever enjoyed in Central America to an end. A few days more, and I was again bound for the interior; my spoils for Europe.

XXXII. *Notes on certain Central-American Laridæ collected by Mr. Osbert Salvin and Mr. F. Godman. By ELLIOTT COUES, M.A., M.D.*

A COLLECTION of Central American *Laridæ* having been kindly transmitted to me, at the Smithsonian Institution, for examination, by my friend Mr. O. Salvin, I have made the following identification of its species*.

* The collection transmitted to the Smithsonian Institution, which Dr. Coues has been so kind as to name, did not include all the species we collected, nor all the specimens. I selected from the whole such a series as would enable me to identify with accuracy the remainder; and only omitted to send three well-known species, viz. *Chroicocephalus atricilla*,

LARINÆ.

1. *BLASIPUS HEERMANNI*, Bp., ex Cass.

A very young female. It is entirely fuliginous, with no signs of the white head or of the general plumbeous hue of the adults. The bill flesh-coloured, its terminal third black; the feet black; the worn wing-coverts, tertials, and tips of the wings and tail greyish brown.

a. Young ♀, Chiapam, Pacific coast of Guatemala, January 1863; (and several other specimens in similar plumage.—O. S.)

2. *CHROICOCEPHALUS CUCULLATUS*, Bruch, ex Licht.

A single immature specimen, identical with the numerous North American examples which have been identified with the *Larus cucullatus* of Professor Lichtenstein by both Mr. Lawrence and myself. There is an incomplete hood; the front and cheeks are mostly white; the bill and feet blackish; none of the characteristic markings of the primaries as yet apparent.

a. Chiapam, Guatemala, January 1863.

3. *CHROICOCEPHALUS ATRICILLA*, Linn.: Coues, Proc. Acad. Nat. Sc. Philad. 1862, p. 309.

We have specimens from both coasts,—those from the Atlantic in summer plumage, perfectly or partially assumed; those from Chiapam, on the Pacific, in winter or immature dress. The latter have the tarsus slightly longer, and the bill somewhat stronger, than the former; but these characters, showing variation between individuals from the same locality, are of insufficient value to make any separation of the species justifiable.—O. S.

STERNINÆ.

4. *THALASSEUS REGIUS*, Gambel.

The numerous examples of both adult and young are quite identical with the common North American bird.

a, b. Chiapam, January 1863; *c, d.* British Honduras, May 1862 (*a.* adult ♂; *b, c, d.* immature); (and several other specimens.—O. S.)

Haliplana fuliginosa, and *Anous stolidus*. These, in order to render Dr. Coues's notes perfect as far as our collection is concerned, I have ventured to incorporate into his paper.—O. S.

5. *THALASSEUS ELEGANS*, Gambel.

The single specimen is absolutely identical with a typical *T. elegans* from California; but, being an immature or winter example, it entirely wants the rosy hue of the under parts of full-plumaged birds. It is the first specimen I have seen in this condition.

a. San Salvador, December 1862. (Shot by Capt. Dow.—O.S.)

6. *THALASSEUS ACUFLAVIDUS*, Cabot.

The eight specimens are somewhat smaller than the average of North American examples, agreeing in this respect with numerous individuals from the Antilles. All are undoubtedly specifically identical.

a, b. Immature birds, Chiapam, Guatemala, January 1863; (and other specimens.—O. S.)

7. *GEOCHELIDON ANGLICA*, Bp., ex Montag.

Quite identical with numerous North American and European specimens. The single specimen is in full winter plumage. The pileus is only represented by numerous delicate, sharply defined shaft-lines of black, which, on the auriculars, blend into a dusky spot. The forehead is pure white. There is a sharply defined anteocular black lunula.

a. Male, adult, winter plumage, Chiapam, February 1863; and other specimens.

8. *STERNA PARADISEA*, Brünn.

A fine adult example, smaller than the average of North American specimens, but otherwise quite similar.

a. Male, "Grassy Cay," May 20, 1862 (one other specimen.—O. S.).

9. *STERNA* ——— ?

A very young example, which I find it impossible to label with certainty. It is almost exactly like *S. paradisea*; but the upper parts are rather too dark, and the primaries want the most essentially diagnostic character of those of *S. paradisea* (*vide* my "Review of the Terns of North America," in Proc. A. N. S. Philadelphia, December 1862, p. 551). At the same time, the colours of the bill, and some other peculiarities, preclude its definite reference to *S. hirundo*, which it otherwise re-

sembles. It is probably, however, *S. paradisea*; which opinion is strengthened by the fact of there being an adult *S. paradisea* in the collection, but no *S. hirundo*.

a. Very young ♀, San José de Guatemala, December 8, 1862.

10. STERNA FORSTERI, Nuttall.

An immature bird, in pretty much the plumage figured and described by Audubon under the name of *S. havelli*, and identical with numerous examples of young *S. forsteri* in the Smithsonian Museum.

a. Young ♀, Lake of Dueñas, Guatemala, October 28, 1862.

11. STERNA ANTILLARUM, Coues, ex Lesson.

An adult example, identical with numerous North American and Antillean specimens.

a. Adult ♀, Glover's Reef, British Honduras, May 14, 1862; and other specimens.

In Cabanis' 'Journal für Ornithologie,' 1861, p. 346, Dr. Gundlach has recently presented this species under the name of *Sterna superciliaris*, Vieillot; which he considers to be the same as *S. antillarum*, Lesson, and *S. frenata*, Gambel. The impropriety of this identification of Vieillot's name will be, I think, quite palpable from the following considerations:—*Sterna superciliaris*, Vieillot (Enc. Méth. p. 350), is based upon the "Hati ceja blanca" of Azara, and is consequently a South American bird. Now Vieillot's description, though brief and somewhat vague, unquestionably refers to some species, in immature plumage, of the subgenus *Sternula*, i. e. a small species, like *S. minuta*, *S. antillarum*, &c., with a white-fronted lunula. I have before me a Sternule, collected at Bogota, which is exceedingly distinct both from the North American *S. antillarum* and from the European *S. minuta*, and which I think is unquestionably the species referred to by Azara and Vieillot. It is at once to be distinguished from *S. minuta* by the plumbeous of the mantle extending over the rump and upper tail-coverts. Agreeing with *S. antillarum* in this respect, it differs from the latter species as follows:—It is considerably larger, the wing from the carpal joint measuring half an inch more. The bill is disproportionately larger and more robust, exceeding that of *S. minuta* by as much as, or more than,

that of the latter surpasses that of *S. antillarum*. It moreover has no black apex, and is basally of a greenish hue. The legs are of an olivaceous greenish instead of a clear yellow. The black hue which separates the white frontal lunula from the white of the cheeks is very narrow and imperfect. The proportions of tarsus and toe are somewhat different. Length of bill, from the forehead, 1.40 (English inches and hundredths); height at base .35. Wing, from the carpal joint, 7.00.

If this be not the *S. superciliaris*, it is doubtless an undescribed species.

12. *HYDROCHELIDON FISSIPES*, G. R. Gray ex Linn.

The common bird of Europe and North America.

a. Adult ♂, Southern Water Cay, British Honduras, May 1863; and other specimens.

13. *HALIPLANA PANAYA* auct. (nec Gmel. et Lath.).

Mr. Salvin's specimen of *Haliplana* is identical with numerous examples in the Philadelphian Academy's Museum, from the Antilles and other localities, including specimens received from Mr. Gould, from Australia, labelled by him "*Onychoprion panaya*." Individuals of this widely distributed species from the most diverse localities are all absolutely identical. The form of the species agrees closely with *H. fuliginosa*, the type of the genus *Haliplana* or *Onychoprion*; but the colours are very different. The bill and feet are black. The cap, nape, and a line from the nostrils through the eyes glossy black. Primaries black; their inner webs with a median longitudinal white space; their shafts brownish black. Entire upper parts deep greyish slate. Front broadly white; the colour extending backwards over the eyes as a conspicuous superciliary streak. Whole underparts white. Tail a lighter shade of the colour of the back; the more internal rectrices bordered on their inner webs with white; the two external rectrices on each side white, with only a small part of their inner webs slate-coloured, the amount of the slate-colour varying greatly with individuals. Mr. Salvin's specimen has a somewhat broader white front than any other examples I have seen.

This is the species which is identified with *S. panayensis*, Gmel.

(*S. panaya*, Lath.), by the majority of modern ornithologists, and generally called *Haliplana* or *Onychoprion panaya*. But, for my part, I can see nothing in the diagnoses either of Gmelin or Latham by which they can be supposed to refer to the species in question. I consider Gmelin's name as referring, in all probability, to the *S. fuliginosa* from the Pacific Ocean, described by Forster as *S. guttata*, and again by the same author as *S. serrata*, and by Bloxham (Voy. Blonde) as *S. oahuensis*. This "*S. fuliginosa* ex Pacifica" has been by some authors considered as distinct from the common North American *S. fuliginosa*; but on examining a large series collected by the United States Exploring Expedition, I find them to be quite identical. Other specimens from Australia are also specifically the same. Therefore I consider that the name *panayensis* or *panaya*, Gm., Lath., is synonymous with *fuliginosa*, Gm. If such be the case, then the well-known species now under consideration has yet to receive a tenable specific appellation*. A third species of *Haliplana*, besides *S. fuliginosa* and the present one, is the *Haliplana lunata*, mihi, ex *Sterna lunata*, Peale, Ornith. of the U. S. Exploring Expedition. This is a typical component of the genus *Haliplana*, and is very closely allied to the species under consideration, the general distribution of the colours being entirely similar. It is, however, a perfectly valid and distinct species, differing somewhat in size, and very decidedly in the shade of the upper parts, as well as in some minor points of coloration. These three species are all that compose the genus *Haliplana*, as far as my knowledge extends.

a. "Lighthouse Reef," British Honduras, 10th May, 1862; and other specimens.

14. HALIPLANA FULIGINOSA, Gm.: Coues, Pr. Ac. Nat. Sc. Philad. 1863, p. 556.

One specimen only, from Curlew Cay. Agrees with specimens of the well-known species.—O. S.

15. ANOÛS STOLIDUS, Linn.: Coues, Proc. Ac. Nat. Sci. Philad. 1862, p. 557.

Numerous specimens from Glover's Reef I have seen, but did

* See my forthcoming "Monograph of the *Laridæ*" (where the species is named *H. discolor*) for further elucidation of this point.

not obtain, specimens of the Noddy of the Pacific coast, which Dr. Coues now separates under the name of *A. frater*.—O. S.

16. *ANOÛS TENUIROSTRIS*, Temm.

The specimens are identical with examples labelled "*A. tenuirostris*, Temm.," in the museum of the Philadelphian Academy; and, so far as I can judge, this identification of them is correct. Setting aside the common *A. stolidus* and my *A. frater*, its Pacific representative, and some species, e. g. *A. parvulus*, Gould (*A. cinereus*, Tréboux), which have been improperly referred to the genus *Anoüs*, the remaining valid species are *A. melanops*, Gould, *A. leucocapillus*, Gould, and *A. tenuirostris*, Temminck, all three very closely allied to each other. I believe they may be briefly distinguished thus:—*A. melanops* has white under-eyelids, and the very dark circumocular region rendered still more conspicuous by the ashy hue of the lores. *A. leucocapillus* has no white on the under eyelid; and the lores are of one colour with the dark circumocular region. *A. tenuirostris*, like *A. leucocapillus*, has the lores very dark coloured; but it has white under-eyelids. It is also notably smaller.

a. Adult ♀, "Glover's Reef," British Honduras, May 12, 1863.

The collection thus embraces fifteen or sixteen species of eight genera of two subfamilies of *Laridæ*.

XXXIII.—Recent Ornithological Publications.

1. ENGLISH PUBLICATIONS.

THE 'Edinburgh New Philosophical Journal' for October 1863 contains "Some Observations on the Eggs of Birds," from the pen of Dr. John Davy. These chiefly relate to the nature and properties of the colouring-matter, and to the results of certain experiments on the albumen. With regard to the former subject, Dr. Davy appears, generally, to have come to the same conclusion as Professor Wilke ('Naumannia,' 1858, p. 393) and M. Leconte (Rev. et Mag. de Zoologie, 1860, p. 199) have done, namely, that the colouring-matter "is not in any way owing to the presence of iron," and consequently is not derived from the blood—an opinion contrary to that maintained, we believe, by M. O. DesMurs in his celebrated 'Oologie Ornithologique.'